

In the Claims

The following amendments are made with respect to the claims in the International application PCT/EP2005/000923.

This listing of claims will replace all prior versions and listings of claims in this application.

1 (currently amended). ~~Method A method~~ for producing sorbicillactone A or derivatives and/or a derivative thereof, comprising the steps of:

- a) culturing a fungus of the genus *Penicillium* at 20-25 °C in a suitable growth medium at a salt concentration of 2-5 % until the formation of a compact surface mycelium,
- b) ~~Increasing~~ increasing the temperature to 28-35°C and further incubation for 5-10 days,
- c) ~~Separating~~ separating the culture broth from the mycelium, and
- d) ~~Extracting~~ extracting sorbicillactone A and derivatives and/or a derivative thereof from the culture medium, and optionally,
- e) ~~Underlaying~~ underlaying the mycelium with fresh medium with a reduced salt concentration of 0,5-1,5 0,5-1,5 % and incubation at 28-35°C for 3-8 days,
- f) ~~Repeating~~ repeating step c) and d), and optionally,
- g) ~~Repeating~~ repeating steps e) to f), and
- h) ~~Extracting~~ extracting sorbicillactone A and derivatives and/or a derivative thereof from the culture medium and/or the mycelia.

2 (currently amended). ~~Method~~ The method according to claim 1, wherein the fungus is *Penicillium chrysogenum*, ~~in particular the strain KIP 3201~~.

3 (currently amended). ~~Method~~ The method according to ~~any of the preceding claims~~ claim 1, wherein different additives can be added to the suitable growth media, such as, for example, one or more additives selected from the group consisting of pyruvate, glutamate, proline, acetate, sorbicilline [[or]] and other biosynthetic precursors of sorbicillactone A is/are added to the growth media.

4 (currently amended). ~~Method according to any of the preceding claims~~ The method according to claim 1, wherein the production takes place in a flat bed method.

5 (currently amended). ~~Method according to any of the preceding claims~~ The method according to claim 1, wherein the inoculum is a solid-state-bound form of the fungus.

6 (currently amended). ~~Method~~ The method according to claim 5, wherein the solid states state to which the fungus is bound [[are]] is a floatable solid states, e.g. grains or styrofoam globes.

7 (currently amended). ~~Method according to any of the preceding claims~~ The method according to claim 1, wherein a carrier device for a stabilisation of the surface mycelium is introduced into the culture vessel.

8 (currently amended). ~~Method~~ The method according to claim 7, wherein the carrier device is a mesh.

9 (currently amended). ~~Method according to any of the preceding claims~~ The method according to claim 1, wherein sorbicillactone A or derivatives and/or a derivative thereof are extracted from the fungal mycelium that is separated from the culture medium by the addition [[with]] of ethyl acetate.

10 (currently amended). ~~Method according to any of claims 1-8~~ The method according to claim 1, wherein sorbicillactone A or derivatives and/or a derivative thereof are immediately is bound from the culture medium to a solid exchanger, and [[are]] purified further from this bound form.

11 (currently amended). ~~Method~~ The method according to claim 10, wherein the solid exchanger is the exchange resin Amberlite XAD-16.

12 (currently amended). ~~Method~~ The method according to claim 10[[or 11]], wherein the solid exchanger as loaded is filtered off from the medium, and sorbicillactone A or derivatives thereof are and/or a derivative thereof is eluted with organic solvents.

13 (currently amended). ~~Method~~ The method according to claim 12, wherein the which utilizes one or more organic solvents [[are]] selected from the group consisting of methanol, ethanol, ethyl acetate, heptane [[or]] and acetonitrile.

14 (currently amended). ~~Method according to one of claims 10-13~~ The method according to claim 10, wherein sorbicillactone A or derivatives thereof are and/or a derivative thereof is acid-extracted from the crude extract with one or more organic solvents.

15 (currently amended). ~~Method~~ The method according to claim 14, wherein the crude extract is brought to a pH of 2 with phosphoric acid, and is subsequently extracted with ethyl acetate.

16 (currently amended). ~~Method according to any of the preceding claims~~ The method according to claim 1, wherein a purification of the extracts occurs by means of FCPC (Fast Centrifugal Partitioning Chromatography).

17 (currently amended). ~~Method~~ The method according to claim 16, wherein comprising the use of a mixture of solvents from heptane, ethyl acetate, methanol, and water with an addition of 1 ml/L of concentrated phosphoric acid at a flow of 6-7 mL/min, and number of revolutions of 1200 revolutions per min, and wherein the upper is used as stationary phase, is used.

18 (currently amended). ~~Method according to any of the preceding claims~~ The method according to claim 1, wherein a purification of the extract occurs by gel chromatography on Sephadex LH-20 using an organic solvent.

19 (currently amended). ~~Method~~ The method according to claim 18, wherein sorbicillactone A is eluted with methanol.

20 (currently amended). Method A method for producing [[of]] sorbicillactone-A-methyl ester, comprising the steps of:

- a) Producing producing sorbicillactone A as described in claims 1-19, by a method comprising the steps of:
- i) culturing a fungus of the genus Penicillium at 20-25 °C in a suitable growth medium at a salt concentration of 2-5 % until the formation of a compact surface mycelium,
 - ii) increasing the temperature to 28-35°C and further incubation for 5-10 days,
 - iii) separating the culture broth from the mycelium, and
 - iv) extracting sorbicillactone A from the culture medium, and optionally,
 - v) underlaying the mycelium with fresh medium with a reduced salt concentration of 0.5-1.5 % and incubation at 28-35°C for 3-8 days,
 - vi) repeating step c) and d), and optionally,
 - vii) repeating steps e) to f), and
 - viii) extracting sorbicillactone A from the culture medium and/or the mycelia,
- b) Treating treating sorbicillactone A dissolved in methanol with concentrated sulphuric acid,
- c) Stirring stirring at room temperature for 6 h,
- d) Adding of adding water,
- e) Extracting extracting with ethyl acetate,
- f) Evaporating evaporating the organic phases in vacuo, and
- g) Purifying purifying the residual by preparative HPLC.

21 (currently amended). Method A method for producing a pharmaceutical composition, comprising the steps of:

- a) Producing producing [[von]] sorbicillactone A or derivatives thereof as described in the claims 1-19 and/or a derivative thereof by a method comprising the steps of:
- i) culturing a fungus of the genus Penicillium at 20-25 °C in a suitable growth medium at a salt concentration of 2-5 % until the formation of a compact surface mycelium,
 - ii) increasing the temperature to 28-35°C and further incubation for 5-10 days,
 - iii) separating the culture broth from the mycelium, and

iv) extracting sorbicillactone A and/or a derivative thereof from the culture medium, and optionally,

v) underlaying the mycelium with fresh medium with a reduced salt concentration of 0.5-1.5 % and incubation at 28-35°C for 3-8 days,

vi) repeating step iii) and iv), and optionally,

vii) repeating steps v) to vi), and

viii) extracting sorbicillactone A and/or a derivative thereof from the culture medium and/or the mycelia, and

b) Formulating of forumulating a pharmaceutical composition using by combining the sorbicillactone A and/or a derivative thereof obtained in step a) with pharmaceutically acceptable auxiliary agents and additives.

22 (currently amended). ~~Method~~ The method for producing a pharmaceutical according to claim 21, characterized in that sorbicillactone A or derivatives thereof are and/or a derivative thereof is present in an amount, so that a range of concentrations concentration between 0.3 and 30 µg/ml is present upon [[the]] treatment in vivo.

23 (currently amended). Use of A method for triggering apoptosis in diseased cells; or treating leukaemia, neurodegenerative diseases, and/or bacterial or fungal infections, wherein said method comprises administering sorbicillactone A or derivatives and/or a derivative thereof as triggering agent of apoptosis in diseased cells, in particular tumour cells.

24 (currently amended). Use of sorbicillactone A or derivatives thereof in The method, according to claim 23, for the treatment of leukaemia.

25 (currently amended). Use of sorbicillactone A or derivatives thereof in The method, according to claim 23, for the treatment of a neurodegenerative diseases disease.

26 (currently amended). Use of sorbicillactone A or derivatives thereof in The method, according to claim 23, for the treatment of bacterial and fungal infections.

27 (currently amended). Fungal A fungal strain of the genus *Penicillium chrysogenum* KIP 3201 with the deposit number DSM 16137.

28 (new). The method, according to claim 2, wherein said fungus is strain KIP 3201.